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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/525,477	03/15/2000	Hisashi Miyazawa	Q58280	9792

7590 07/03/2002
Sughrue Mion Zinn MacPeak & Seas PLLC
2100 Pennsylvania Avenue NW
Washington, DC 20037-3202

EXAMINER
NGUYEN, JUDY

ART UNIT	PAPER NUMBER
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2861

DATE MAILED: 07/03/2002

27

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/525,477

Applicant(s)

MIYAZAWA, HISASHI

Examiner

Judy Nguyen

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 11-28, 38, 39, 46 and 58-71 is/are pending in the application.
- 4a) Of the above claim(s) 5, 15 and 66-71 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16, 58 and 59 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 11-14, 17-28, 46 and 60-65 is/are rejected.
- 7) ☒ Claim(s) 38 and 39 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 19, 20, 25, 26
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 5, 15 and 66-71 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 13.

Specification

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the limitation recited in claim 46 is not disclosed in the specification.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the film member interposed between the capillary and the ink storage chamber (recited in claim 46) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 22 and 46 are objected to because of the following informalities: "an periphery" (claim 22) should be ~~a~~ periphery—and "said capillary" (claim 46) lacks proper antecedent basis. There is no previous recitation of any capillary. Where does it come? Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1-4, 6, 11-14, 17-28, 60, 61, 63, 65 are rejected under 35 U.S.C. 102(e) as being anticipated by Pawlowski et al (US 5,777,647).

Pawlowski et al discloses all elements of the claimed invention:

- A body (10; Figure 1A)
- A carriage (12)
- An ink-jet recording head (204)
- An ink supply device (202) being constructed as a differential pressure valve including a coil spring (515), a valve seat (517/519), a movable membrane (505)
- A plurality of ink supply devices (clearly shown in Figure 1A)
- A main tank/an ink supplementing device (30)
- A conduit (32)
- An ink storage area (800)
- An ink injection port (421)
- A spring holder (illustrated in Figure 5)
- An air intercepting film (112/439)
- A groove capillary (between 411 and 413; see Figure 4).
- Functional limitations are considered inherent.

7. In addition, the following 102 rejection is being added to show that other references can also teach the broadly recited claims.

8. Claims 1, 2, 12, 19-25, 60, 61, 65 are rejected under 35 U.S.C. 102(e) as being anticipated by Iida (US 6,000,788).

lida discloses all elements of the claimed invention:

- A body (a printer; column 1; first paragraph)
- A carriage and a recording head (column 1, second paragraph)
- An ink supply device constructed as a differential pressure valve (see Figures 5-6C) including a coil spring (21), a movable membrane (3) normally contacted elastically with a valve seat (20) by the coil spring
- A container having an ink storage chamber (4) communicates with an ink supply port (2) adapted to be connected to an ink-jet recording head
- A capillary (31) includes a groove
- An air intercepting film (33) sealing the groove
- A fixing part (9) fixed to a periphery of a movable part (center portion) of the movable part
- A supporting part/an annular bent part (outer periphery of element 3).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pawlowski et al in view of Baker et al (US 5,025,271).

Pawlowski et al discloses all elements of the claimed invention except for:

- A film member having both gas permeability and ink repellent properties being interposed between the capillary and the ink storage chamber.

However, Baker et al discloses:

- A film member (82) having both gas permeability and ink repellent properties being interposed between a capillary (70) and an ink storage chamber.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include the film member as taught by Baker et al in the teaching of Pawlowski et al for the purpose of simultaneously providing adequate ventilation and preventing ink back-flow through the capillary.

11. Claims 62 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iida in view of Obermaier (US 3,354,902).

Iida discloses all elements of the claimed invention except for:

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- The movable membrane being disposed between the valve and the coil spring and the coil spring urges the movable membrane against the valve seat.

However, Obermaier discloses:

- An equivalent supply unit having a movable membrane being disposed between a valve and a coil spring and the coil spring urges the movable membrane against the valve seat (see Figure 1).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the supply unit of Iida with the one of Obermaier for the purpose of accommodating flow through the valve in one direction while preventing backflow or leakage through the valve in an opposite direction.

Allowable Subject Matter

12. Claims 16, 58 and 59 are allowed.

13. Claims 38 and 39 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.


Response to Arguments

14. Applicant's arguments have been fully considered but they are not persuasive.

Applicant argues that Pawlowski fails to teach that the valve seat of the claimed invention obstructs the flow of ink and only when the movable membrane is disengaged with the valve seat is ink permitted to flow around the valve seat.

However, the examiner noted that this limitation is not recited in any claim. Other arguments are moot in view of the new grounds of rejection.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judy Nguyen whose telephone number is (703) 305-7062. The examiner can normally be reached on Monday - Friday.


Judy Nguyen
Primary Examiner
July 1, 2002